

opment we might be led to think, that the default of action of a member causes, after a while, an atrophy of that part of the brain which controls its movements, the author ought to be able to find in cases of old amputations, an atrophic lesion of the surface of the brain always occupying the same point. Unfortunately he was able to collect but two observations followed by autopsies; one by M. Chuquet, and the other by M. H. C. de Boyer, both *internes* of the hospitals.

Nevertheless in these cases there was found an atrophy occupying the upper part of the two ascending convolutions, that is to say, over a portion of the region occupied by the lesions of brachial monoplegia, and this augments the value of those lesions as regards localizations. In a second chapter M. Bourdon treats of the movements of the lower limbs for the purpose of finding whether in man there really exists a motor centre distinct from that for the arm, as experiments upon animals permit us to suppose to be the case; and he seeks to support this supposition by clinical facts of paralysis limited to one limb. But those recorded in the books are either not accompanied with the accounts of the autopsies or the location of the lesion is barely indicated. In lack of sufficiently conclusive cases of monoplegia, the author has collected three cases of amputation, and one of arrest of development of the lower limb. In the three first, observed by M. Luys, there was found an atrophy located in the upper part of the ascending frontal convolution; in the case of arrest of development, published by M. Landouzy, the atrophy occupied the upper portion of the ascending parietal convolution.

After giving his conclusions, readily deduced from the preceding facts, M. Bourdon closes with the following practical considerations. In consequence of the considerable extent of the motor centre for the arm, a paralysis limited to this member does not indicate with sufficient precision the part of the cranium to which the trephine should be applied. Nevertheless, if there is added to the brachial monoplegia a paralysis of the lower face, or an aphasia, we have, according to M. Bourdon, a great chance of meeting the lesion by operating over the middle portion of the Rolandian line, as recommended by M. Lueas-Champonniere. As to the counsel given by that surgeon, to apply the trephine near the summit of the fissure of Rolando, in case of paralysis of the lower member, the observations cited tend to prove that it is well founded, but the case is otherwise when he advises operation behind the fissure, since the facts demonstrate that the anatomical alteration is more often anterior than posterior to the line which serves as a landmark for the surgeon.

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THE REAL ORIGIN OF THE FACIAL.—At the session of the Soc. de Biologie Oct. 20, (rep. in *Le Progrès Médical*) M. Duval communicated the results of his investigations as to the true point of origin of the facial nerve. In sections perpendicular to the axis of the medulla we trace the course of this nerve, beginning at its point of emergence, back toward the posterior extremity of the raphe; from there pass fibres which take a recurrent course towards a nucleus, the true nucleus of origin of the facial.

The facial, therefore, forms a horseshoe, of which the first and third portions are horizontal, and the second, more short, is vertical. The nucleus of the external motor oculi nerve is situated in the concavity of this horseshoe, and it gives some fibres to the facial. Finally, in sections parallel to the floor of the fourth ventricle, MM. Duval and Graux have been able to follow fibres going from this nucleus to radicular fibres of the motor oculi communis of the opposite side. In this way they explain the facts of functional paralysis of one internal rectus associated with paralysis of the external rectus of the opposite side. The third cranial pair has, therefore, a double source of innervation.

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THE PHYSIOLOGY OF THE BRAIN.—Orchansky, *Inaug. Diss.*, St. Petersburg, 1877. (Abstr. in *St. Petersburger Med. Wochenschr.*, No. 41). This dissertation comprises three parts: A historical sketch of the question of psycho-motor centres; a critical review of the doctrines regarding these centres; and the researches of the author, with his conclusions. From the historical *résumé*, it appears that experimenters have adopted different opinions, on account of the various methods (electric current, chromic acid, jets of water) employed. He lays down the following, after a thorough critical analysis of the views presented on the psycho-motor centres: 1. A physical localization of the electric current in special regions of the brain is to be considered as probable. 2. There is a great probability of the psychic organs in the surface of the brain, and of motor organs in the more deeply situated portions. 3. The character of the processes following irritation of the brain is ganglionic, i. e., central. 4. The improbability of a specific character and indivisibility of these centres. 5. The obscurity of the method of transmission of the excitation from the psychic to the motor centres. 6. The separation of the cortex into motor and non-motor parts, rests probably upon an anatomical basis, but is still little known. 7. The cause of the presence of non-motor sections with the motor centres in the motor regions is still unknown.

The author's own experiments were performed on dogs and rabbits. For the solution of the question of the possibility of the localization of the electric current in the brain, the author applied the needle-shaped platinum electrodes to the brain itself, at the distance of from two to four millimetres from each other, and he found that with a weak current, (20-30 mm. slide of the helix) with closer approach of the electrodes to each other, and superficial penetration of the electrodes into the brain-substance, the current could be well localized. A repetition of Hitzig's and Ferrier's experiments gave the following results: A gentle, careful contact of the particular points of the cortex with small blunt electrodes caused muscular contractions; that the motor zone is better isolated in dogs than in cats and rabbits, and that each excitable point is surrounded by a less excitable tract. The author found in rabbits, points irritation of which produced homolateral contractions. (Hitzig found only contralateral and bilateral ones). He noticed contractions of the cutaneous muscles at the same time with those of the trunk, and likewise a direct relation between the strength